

# Slowing Things Down

A parachute system has been designed to slow the landers down when they enter the Martian atmosphere at speeds of up to 20,000 kilometers per hour. The Mars rover teams have the added challenge of a thin atmosphere that makes slowing the landers down even harder. There are many variables that affect how much a parachute can slow an object down. In this activity, each engineering team will test one variable that affects descent rate in a normal Earth atmosphere.

## Procedure

- 1 Construct the three parachutes assigned to your team. Trace the template your teacher has provided on a flattened garbage bag, which will be your parachute's canopy (since the bag has two layers, each template will result in two canopies). Cut out the canopies. Variable A teams will alter the size of their canopies; variable B teams will also cut canopies out of additional materials.
- 2 Center your template over the canopy and use your pen to mark each of the eight holes on the edge of the template.
- 3 Further modify or attach suspension lines and the payload to your parachute according to the instructions listed on your "Engineering Team Directives" handout.
- 4 Repeat the steps for your next two canopies.

